

**VIRGINIA HIGHLANDS AIRPORT AUTHORITY  
REGULAR MEETING**

**Members Present:** John. R. White  
Edward "Earl" Maine  
Frank Sims  
Stephen Lowe  
Andy Puckett  
Dr. John E. Baker  
David G. Anderson

**Guest Present:** See Attachment

The Virginia Highlands Airport Authority Board of Directors met on Monday, September 12, 2016 at 6:00 P.M. in the lobby of the Terminal Building. Mr. White, Chairman, determined that a quorum of the Board was present and called the meeting to order. Also present were Mickey Hines, Airport Manager, Jim Elliott, Airport Attorney, Kristy Miller, Executive Assistant, and Amber Miller, Airport Secretary.

Mr. White called for approval of the Minutes of the Regular Meeting August 08, 2016.

Mr. Maine moved to approve the Minutes of August 08, 2016. Mr. Puckett seconded the motion. The motion carried unanimously.

Mr. Elliott read the motion of the Virginia Highlands Airport Authority conduct a Closed Session pursuant to Code of Virginia 2.2-3711 A.7 for the purpose of consultation with legal counsel and briefings by staff members or consultants pertaining to actual or probable litigation, where such consultation or briefing in open meeting would adversely affect the negotiating or litigating posture of the public body; and consultation with legal counsel employed or retained by a public body regarding specific legal matters requiring the provision of legal advice by such counsel.

Mr. Lowe moved to conduct a Closed Session in accordance with the items that was stated by Mr. Elliott. Mr. Maine seconded the motion. The motion carried unanimously.

Mr. White stepped out of Closed Session and invited Mr. Berry, Ms. Phillips, Mr. Pennington, and Ms. Lowe into Closed Session.

Following the Closed Session, the Board immediately reconvened its Open Session and the Authority's Attorney, Mr. Elliott took a roll call vote stating that no matter that was discussed in Closed Session other than that were included in the

**motion to go into Closed Session and no other votes were taken in Closed Session other than to go out of Closed Session.**

**John White - I so certify  
Edward "Earl" Maine – I so certify  
Andy Puckett - I so certify  
Frank Sims - I so certify  
David Anderson – I so certify  
James Baker – I so certify  
Stephen Lowe – I so certify**

**Mr. White turned the floor over to Appalachian Power Company.**

**See attached Transcript prepared by Ms. Cynthia Bragg, Court Reporter with CLB Reporting for this portion of the meeting.**

**Mr. White stated that a short break will be taken. Break at 7:44p.m.**

**Mr. White called the meeting back to order at 7:54p.m.**

**Mr. Maine stated that the Evaluation Committee has evaluated the formal proposals received in response to the RFP for the Wetland Stream Mitigation. It is the recommendation of the Evaluation Committee that the contract be awarded to Highlands Conservation Group, Inc.**

**Discussion ensued.**

**Mr. Anderson moved to accept the Evaluation Committees recommendation and award the Wetland Stream Mitigation contract to Highlands Conservation Group, Inc. Mr. Lowe seconded the motion. The motion carried unanimously.**

**Mr. Hines stated that the Board needed to review and approve a Resolution Approving Settlement for Gent Property Acquisition.**

**Discussion ensued.**

**Mr. Lowe moved to approve the Resolution Approving Settlement for Gent Property Acquisition. Mr. Maine seconded the motion. The motion carried unanimously.**

**Mr. White called for Public Comments.**

**None.**

**Mr. Maine moved that Mr. Quinan with Christian & Barton, the attorney recommended by Mr. Elliott, be engaged as a consultant upon successful termination of the contract with Mr. Reisinger, the Attorney recently engaged by**

the Chairman and Airport Manager. Mr. Puckett seconded the motion. The motion carried unanimously.

Mr. Anderson moved to adjourn. Mr. Maine seconded the motion. The motion carried unanimously. The meeting adjourned at 8:40 P.M.

  
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David Anderson, Secretary  
\_\_\_\_\_  
John R. White, Chairman

RESOLUTION  
APPROVING SETTLEMENT FOR  
GENT PROPERTY ACQUISITION

WHEREAS, by earlier resolutions, the Board of Directors authorized Virginia Highlands Airport Authority staff and legal counsel to pursue the acquisition of 5.0 acres of real property from landowner Fred Bailey Gent II for the Runway 6 extension project and to undertake condemnation proceedings if a voluntary purchase agreement could not be negotiated with Dr. Gent; and

WHEREAS, the property is the last remaining parcel to be acquired for the project and is needed for airport fencing, obstruction removal, a stormwater outfall area, a portion of the runway protection zone, and a localizer access road; and

WHEREAS, VHAA's independent real estate appraiser valued the 5.0 acres at \$30,700 per acre and determined that the partial acquisition would not damage the residue of Dr. Gent's property. Accordingly, VHAA offered to purchase Dr. Gent's property at \$153,500 plus the cost of replacement fencing. Later, to induce settlement, VHAA increased its offer by 10% per acre, to \$175,510.50; and

WHEREAS, after pre-condemnation negotiations were unsuccessful, VHAA filed a Petition in Condemnation against Dr. Gent in July 2015. The condemnation action was set for a trial on just compensation in August 2016 before a panel of five condemnation commissioners. (Customarily, the panel of commissioners includes three commissioners from a list supplied by the landowner and two commissioners from a list provided by the condemning authority, and only three of the five commissioners must agree on the amount of the condemnation award.); and

WHEREAS, in the weeks preceding the trial, VHAA and Dr. Gent reopened settlement discussions. Dr. Gent provided a valuation opinion from an independent real estate appraiser, valuing the 5.0 acres to be acquired at \$138,000 and providing a figure of \$344,900 for damage to the residue of the property, for total compensation of \$482,900. Dr. Gent also provided notice that he would testify at trial that he believed just compensation to be \$720,000, with \$250,000 for the property taken and \$490,000 for damage to the residue; and

WHEREAS, due to the substantial risk of a large condemnation award given the culture of the area and its history of outsized condemnation awards, and in acknowledgment of the strengths and weaknesses of both parties' positions, VHAA negotiated a compromise settlement with Dr. Gent for \$350,000 plus the construction of replacement farm fencing, contingent upon approvals by the VHAA Board of Directors and the Federal Aviation Administration; and



WHEREAS, the Board has reviewed the Settlement Agreement and Mutual Release executed by the Airport Manager and by Dr. Gent; and

WHEREAS, the FAA has approved VHAA's request for an administrative settlement in the amount of \$350,000 and will reimburse VHAA for the settlement amount when grant funding becomes available: and

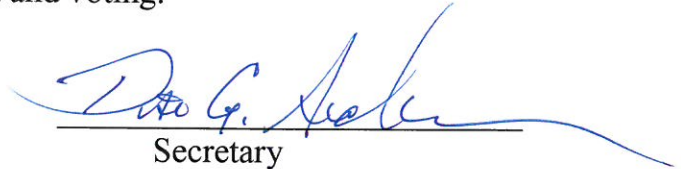
WHEREAS, pursuant to the power granted to the Airport Manager, a deed to the property was prepared and signed by Dr. Gent as grantor and the deed was recorded among the deeds of the County in the Offices of the Circuit Court Clerk; it is

Hereby RESOLVED that:

The Settlement Agreement and Mutual Release are in the best interest of VHAA and, together with the acceptance and recording of the aforesaid deed, are hereby ratified and approved. The Airport Manager and legal counsel are empowered to take all actions necessary to carry out VHAA's obligations and enforce its rights in accordance with the terms of the agreement.

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The foregoing resolution was adopted by a vote of 7 to 0 at the regular meeting of the Board of Directors of Virginia Highlands Airport Authority on Monday, September 12, 2016 at 6:00 p.m., a quorum present and voting.

  
Secretary

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2  
3 BOARD MEETING OF THE  
4 VIRGINIA HIGHLANDS AIRPORT AUTHORITY  
5 SEPTEMBER 12, 2016  
6 6:00 p.m.  
7  
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12 Virginia Highlands Airport  
13 18521 Lee Highway  
14 Abingdon, Virginia 24210  
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1 MR. WHITE: Good evening. It's 6:00, and  
2 this is our 9/12/16 Virginia Highlands Airport  
3 Authority Commission meeting. We are a quorum, so  
4 the first order of business will be approval of our  
5 regular stated meeting minutes.

6 MR. MAINE: Mr. Chairman, I move those  
7 minutes be approved as written.

8 MR. WHITE: We have a motion. Anybody  
9 second?

10 MR. PUCKETT: I second.

11 MR. WHITE: Motion was seconded. All in  
12 favor.

13 (Verbal vote was taken at this time.)

14 MR. WHITE: Motion carried. The minutes are  
15 approved as written.

16 Okay. We have a little bit different format  
17 tonight with our meeting. We have guests from  
18 the Washington County administration and also the  
19 Town of Abingdon. We also have guests from AEP  
20 and their consultants.

21 So what we're going to do tonight is -- we  
22 do also have a court reporter, so everybody's  
23 comments will be recorded. Sometimes we  
24 occasionally talk over one another, so we need to

1 try to be cautious about that.

2 If you have a comment, there are microphones  
3 scattered about the tables here. They're all on  
4 but they're in mute. To talk you have to push  
5 the little red button. Is that right, Kristy?

6 MS. MILLER: Yes.

7 MR. WHITE: So that way you can be heard  
8 clearly and the court reporter can hear. She  
9 does have to record some comments, so we'll try  
10 to recognize anyone who wants to speak and let  
11 them speak so she can get their comments.

12 All right. First, it will probably be  
13 appropriate if everybody could just introduce  
14 their selves starting with Kristy.

15 MS. MILLER: Kristy Miller, Virginia  
16 Highlands Airport administrative assistant.

17 MS. PHILLIPS: Lucy Phillips, Washington  
18 County attorney.

19 MR. BERRY: Jason Berry, county  
20 administrator.

21 MR. PENNINGTON: Randy Pennington,  
22 Washington County Board of Supervisors Chairman.

23 MR. ELLIOTT: James Elliott, attorney for  
24 the airport.

1 MR. SIMS: Frank Sims, airport board.

2 MR. PUCKETT: Andy Puckett, airport board.

3 MR. MAINE: Earl Maine, airport board.

4 MR. WHITE: I'm John White, Chairman of the  
5 Virginia Highlands Airport Authority.

6 MR. HINES: Mickey Hines, Virginia Highlands  
7 Airport Manager.

8 MR. ANDERSON: David Anderson, I'm the  
9 secretary for the airport authority.

10 MR. BAKER: James Baker, airport board and  
11 member of the board of supervisors.

12 MR. LOWE: Stephen Lowe, Virginia Airport  
13 Authority board member.

14 MR. LAMB: Charlie Lamb with Delta Airport  
15 Consultants.

16 MS. LOWE: Cathy Lowe, Mayor of the Town of  
17 Abingdon.

18 MS. MILLER: Amber Miller, Virginia  
19 Highlands Airport administrative assistant.

20 MR. WHITE: Like I said, we have a little  
21 bit different format. We need as a board to --  
22 we have a couple of matters that we need to take  
23 care of that are going to have to be done in  
24 executive session.

1           We're going to keep that just very minimal,  
2           but if you will excuse the board while we're in  
3           closed session. We promise not to be a maximum  
4           of 15 minutes, would that be fair?

5           MR. ELLIOTT: I think that's fair. The  
6           basis of the meeting itself will be to consult  
7           with legal counsel.

8           The basis of the meeting, and I'll solicit  
9           someone to make the motion from the board, is to  
10          consult with legal counsel pertaining to actual  
11          possible litigation and whether such would  
12          adversely affect the negotiating or litigating  
13          posture of the authority.

14          MR. LOWE: I so move.

15          MR. MAINE: Second.

16          MR. WHITE: All in favor of that motion.

17                   (Verbal vote was taken at this time.)

18          MR. WHITE: We'll go into executive session.  
19          Just bear with us.

20                   (The Virginia Highlands Airport  
21                   Authority Board went into executive  
22                   session at this time.)

23          MR. ELLIOTT: I think everybody can hear me.  
24          The chairman will take a roll call vote asking

1 each member to certify to the best of their  
2 knowledge that only public business matters  
3 lawfully exempted from the public meeting, and  
4 only such public business matters that were  
5 identified in the motion for which the closed  
6 meeting was convened were heard, discussed or  
7 considered in the meeting.

8 If any of you believe there was a departure  
9 from the requirement, these requirements, so  
10 state prior to the vote. Anybody? Then the  
11 chair will take a roll call.

12 MR. WHITE: The chair would like to call a  
13 roll call vote for the purposes so stated. I,  
14 John White, so certify.

15 MR. MAINE: I, Earl Maine, so certify.

16 MR. PUCKETT: I, Andy Puckett, so certify.

17 MR. SIMS: I, Frank Sims, so certify.

18 MR. ANDERSON: I, David Anderson, so  
19 certify.

20 MR. BAKER: I, James Baker, so certify.

21 MR. LOWE: I, Stephen Lowe, so certify.

22 MR. WHITE: All right. Now that we have all  
23 of our formalities over with, I'd like to  
24 introduce all the Appalachian Power Company

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1 people and their consultants tonight. I'm sorry,  
2 I don't know all of you by name, but we're going  
3 to turn this over to you.

4 I understand you have a presentation that  
5 you want to present to all these people, and  
6 we're anxious to see it, but I would like to make  
7 one opening statement as representative of the  
8 Virginia Highlands Board.

9 We have some people here that are experts in  
10 aviation, and we have worked hard, and the boards  
11 prior to this one have worked hard and spent a  
12 lot of money developing this airport and  
13 preparing for a runway extension that is vital to  
14 this county and to this town.

15 We are unanimous, this board is, in our  
16 feeling that we are opposed to this power line in  
17 the place that it is proposed for three major  
18 reasons.

19 Number one is the safety of the approach and  
20 departure from this airport and the people who  
21 are going to use them.

22 Number two is the utilization of the  
23 airport. Based on where that power line is now,  
24 we're pretty sure it's going to affect the

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1 utilization of the airport.

2 That brings us to number three. This will  
3 affect -- if it's approved and built where it is  
4 proposed, it will affect our economics for a long  
5 time in the future.

6 So we just want to make it clear as of now  
7 and we always will be opposed to that power line  
8 being built three-quarters of a mile of our  
9 approach and departure path of our most utilized  
10 runway.

11 So now I'll turn it over to you, and you can  
12 make the presentation. Thank you.

13 MR. BURNS: I want to thank you guys for  
14 letting us participate in your meeting tonight.  
15 I'm Blair Burns, and I'm the project manager for  
16 APCO for this particular project. I do have with  
17 me our siting team. These are people who have  
18 been involved with the project, some for over two  
19 years, on the planning of the project, as well as  
20 we brought in our FA&A consultant as well who has  
21 been on the project since January.

22 I'll just point them out. This is Clyde  
23 Pittman. He's with FA&A, and he's our consultant  
24 for the FAA guidelines. We have Emily Larson.

1 She's with Power Engineers. She's one of the  
2 siting team members.

3 Ryan Weyant also is with Power Engineers,  
4 and he's a transmission line engineer. He's the  
5 one that's been helping to develop the plan and  
6 the design of the circuit.

7 Scott Kennedy, who is manning the computer  
8 for me and the presentation, is with APCO, and  
9 he's a siting specialist as well. He's done many  
10 projects, not only here but in West Virginia and  
11 other states as well.

12 It's a long process. That's what our goal  
13 is for tonight is just review how we got to where  
14 we are today and explain the design and our  
15 thoughts about the design.

16 We'd like to discuss with you your concerns,  
17 specifically about the design and location. I  
18 know you've already kind of given it to us at a  
19 higher level, but we're trying to understand  
20 maybe in more detail your concerns about it to  
21 see what we can do to come up with a solution  
22 that's good for everybody. So that's kind of the  
23 approach for tonight.

24 As I said, the priorities whenever we do a

1 project is safety is first. We're not going to  
2 build anything that's not safe, that's going to  
3 be an endangerment from an FAA standpoint or from  
4 an electrical standpoint. We have standards we  
5 need to meet and follow.

6 Of course, we go before the State  
7 Corporation Commission. They've got an engineer  
8 staff that reviews these projects, and they make  
9 sure that we're following all the proper  
10 protocols and evaluate things from an historical  
11 standpoint, from an environment standpoint, from  
12 an FAA standpoint. So there are a lot of checks  
13 and balances that make sure that what we do is  
14 something that will not impact the community  
15 negatively.

16 We began looking at this in early 2014. We  
17 have a regional transmission organization. They  
18 basically manage the grid for the East Coast.  
19 They're referred to as PJM. PJM had identified  
20 two independent projects in the Abingdon area due  
21 to great growth that you guys are experiencing in  
22 Abingdon.

23 They're two independent projects. One is  
24 from the community standpoint, which is phase

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1 one. That's for us building this south Abingdon  
2 extension 138kV line over to a new station that  
3 we're putting off of Vances Mill Road. That's  
4 really to help what we call our distribution side  
5 of the business, and that's what feeds the homes.  
6 That's what feeds the neighborhoods and the  
7 businesses.

8 We've been monitoring this. Our planning  
9 group has been looking at Abingdon for a while  
10 since it's been growing steadily. And when we  
11 had the polar vortex, I think two years ago it  
12 was, there were some nervous people monitoring  
13 the grid at that point in time. So we've got  
14 some concerns that we needed to address and PJM  
15 agreed.

16 At the same time because of the polar vortex  
17 in another part of Washington County, there are  
18 transmission reliability issues where our  
19 equipment will heat up to the point where it's  
20 beyond what we feel is a safe temperature.  
21 That's what we call thermal violation, and that's  
22 a model that PJM runs. That's phase two. That  
23 was the project where we were looking at going  
24 from south Abingdon over to our head station.

1           At the time those two came up, they came up  
2           at the same time, and we decided to try to put  
3           the two projects together and run them through.  
4           That way we wouldn't have to have separate public  
5           meetings for each one. We wanted to try to  
6           combine everything because we were trying to get  
7           those projects through and completed before  
8           another thermal vortex came.

9           So we did have the open house last  
10          September. We had over 100 participants. We got  
11          good feedback and input from the landowners and  
12          the community. We took that information, and we  
13          prepared the alternative routes. We basically  
14          had a spaghetti map of routes to start with, and  
15          we were able to narrow them down to three or four  
16          choices for each phase of the project.

17          We have gone back to some of the landowners.  
18          We also, I think, talked with Mickey here, and we  
19          provided some information to Delta Consultants  
20          about it trying to get some feedback on what  
21          their thoughts were as well.

22          At that point, we got a notification from  
23          our grid operator saying that they wanted to  
24          remodel phase two. So they asked us to suspend

1 work on it, and they would come back with the new  
2 parameters that we needed to try to design to.

3 So we basically held up, and we were told we  
4 would hear within a month or two maybe what the  
5 solution needed to be, and then we would  
6 readdress whether we were heading down the right  
7 path to start with or whether we needed to do  
8 something different. We're still waiting to hear  
9 from PJM on that. They've not gotten back to us.

10 Because of that, in January we knew we  
11 needed to make a decision to move forward with  
12 phase one just because it was going to help the  
13 community, and it was the basis for whatever the  
14 future phase would be as well. So we went ahead,  
15 and that's why we only filed the first phase and  
16 not both phases.

17 At that point, then we started working on  
18 the detailed designs. We met with the  
19 landowners, businesses, the community, and in  
20 January we also put together our preliminary  
21 design. That's when we brought FA&A on board to  
22 see if there is any what we call fatal flaws from  
23 an FAA perspective. Is there anything that will  
24 absolutely kill this project where the FAA will

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1 say no way?

2 Based on their assessment, they identified  
3 towers or structures that were too tall, and so  
4 we've made some adjustments to the design, and  
5 we've been making adjustments to the design ever  
6 since.

7 We've gotten it to a point where we asked  
8 them to model it again in May, and they came back  
9 and said, well, you still have a couple of  
10 penetrations over structures 9 and 10, but those  
11 probably could be mitigated with lighting and  
12 markings which FAA has allowed on other projects.  
13 So with that we thought we would be okay to go  
14 ahead and proceed.

15 We did file the route with the FAA last  
16 week, so we have filed it with them. We showed  
17 there the filing number. You can go into the  
18 database, and they'll give the status as we wait  
19 for the FAA to review it and make the decision  
20 regarding the design of the lines.

21 We do still have some public hearings open.  
22 There are two, one in Richmond on the 26th of  
23 October, and we also have two that are here on  
24 the 17th of October as well. So there are still

1 some public hearings for people to participate.  
2 The evidentiary hearing with the State  
3 Corporation Commission is scheduled for the 17th  
4 of November.

5 So that's kind of where we are. Again, we  
6 would hope that we could get together and try to  
7 work out a plan that wouldn't require us to  
8 completely move the line out of the way. That's  
9 the purpose of tonight is to try to explain our  
10 perspective on it and to hear your perspective  
11 and see what we can come up with as far as a  
12 solution goes.

13 Scott, next slide. This is the original  
14 alternative routes that we showed. We showed two  
15 for phase one, or three if you count the middle  
16 one going diagonally, but A and C. A is the one  
17 that's further east. That's the one that would  
18 go across the Johnson property further to the  
19 east, and it would then cross Main Street and go  
20 across the campus and across 81.

21 C is the other alternative. We felt these  
22 are two viable alternatives, and that's the one  
23 that we're proposing now. That's the one that  
24 comes closer to the fairgrounds and crosses over

1 near Dutt-Wagner and goes to 81 and goes that  
2 way.

3 The next slide, this is a report that we  
4 received from Delta back, I think, towards the  
5 end of last year regarding the two alternatives.  
6 Their study showed that because alternative A  
7 goes over higher ground, higher terrain in that  
8 area, we do actually penetrate the 34:1 approach  
9 surface. We've got two structures there that are  
10 actually in that surface area, which is not good.  
11 I think there are five penetrations total for A,  
12 and we are showing three for alternative C where  
13 we don't penetrate the 34:1.

14 So although we are moving closer to the  
15 runway, because we're going through an area that  
16 would be considered to be a saddle where there is  
17 ground that is actually higher on either side of  
18 where the route is going, we're perceiving that  
19 as being something that would be possibly  
20 acceptable. So that was kind of the route we  
21 were pursuing.

22 The next page shows a photograph, and this  
23 photograph was taken from the Virginia Highlands  
24 Community College. It shows off to the right the

1 alternative route A coming over the hill and  
2 straight down the hill. Then to the left you see  
3 alternative route C.

4 There where the laser is pointed, that's  
5 where it crosses the hill, and then it follows  
6 the terrain down towards Main Street. It  
7 actually gets lower as it comes down the hill.  
8 Of course, A gets lower as well, but there are  
9 some places where because of the elevation of  
10 alternative A, you're going to have penetration.

11 We've gone back and the Power Engineers  
12 team, they have reviewed structure designs.  
13 They've looked at structure spacing, and they've  
14 done pretty much everything they can trying to  
15 get those towers or structures as low as we can  
16 because we obviously understand the concerns  
17 about the approach into the airport.

18 So anyway, based on what we're proposing,  
19 when we cross over on the upper side on C we do  
20 have two structures that we basically took from a  
21 tall single pole and took them down to two  
22 side-by-side structures which drops them probably  
23 20 to 30 feet already. So that's why there are  
24 four structures, although really it's technically

1 two locations, but we had to go to two locations,  
2 two structures each. But those do penetrate the  
3 horizontal surface there.

4 Going to the next page, this is just kind of  
5 a summary of the three alternatives that we  
6 looked at. We also took a look at the length of  
7 each of the alternatives. They're all about the  
8 same length, about 3.6 to 3.8 miles. The  
9 approximate cost is about \$10 million regardless  
10 of which one we choose. So we're not choosing  
11 route C because it's the cheapest one. They're  
12 pretty comparable price wise.

13 Now, if you look at undergrounding, that's  
14 where the price jumps out. Undergrounding is a  
15 very expensive proposition. It also requires you  
16 to do a lot of excavation work. You've got to  
17 basically dig a trench the entire way. I'm not  
18 sure the depth or the engineering aspects of it,  
19 but it's extremely expensive, probably ten times  
20 the cost of what the line would cost.

21 Based on our estimates, if you go 6/10ths of  
22 a mile, it adds \$10 million to the cost of the  
23 project. So basically you're doubling the cost  
24 of the project to go 6/10ths of a mile

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1 underground.

2 From our perspective, you know, we have to  
3 design these projects not only for the benefit of  
4 the community but also for the customers of APCO  
5 who have to pay the electric bills. The cost of  
6 our projects do get passed through to the  
7 customers.

8 Based on our understanding of the line  
9 design, we're thinking what we have would be  
10 appropriate. \$10 million would be appropriate  
11 costs, but if we have to go and say we're going  
12 to spend \$20 million on it, the people who are  
13 paying the electric bills every month are going  
14 to be impacted, and they're going to want to know  
15 why.

16 Really the State Corporation Commission  
17 would need to come back and mandate that we  
18 underground it. We don't want to make that  
19 decision ourselves. That's up to the State  
20 Corporation Commission. If that's a solution  
21 they say to do, then we would have to take a look  
22 at that, or we would have to look at another  
23 alternative.

24 One other point about route A versus route C

1 is where you cross the property, the Johnson  
2 property, there is a neighborhood right there.  
3 These structures would be right in their back  
4 yards, and they would be up on a hill 100 foot  
5 tall.

6 It does go right by the greenhouse business  
7 that's there. We're trying to parallel down to  
8 Main Street. Then the crossing of Main Street is  
9 really complicated because of all the development  
10 and businesses that are there. We found a hole  
11 that we can get through where we can get to the  
12 community college property, but it's a pretty  
13 tight window there, and because of that we would  
14 have to cut across the Johnson property, and that  
15 would impact two of the homes that are there.

16 Again, we try to minimize the impact, you  
17 know, to homes. We don't want to have to go down  
18 that path if we don't need to. So by going with  
19 route C, we don't affect homes that way. So  
20 that's another reason we were pushing to go  
21 forward on that route.

22 The next slide, please. One of the other  
23 things that we looked at is I know the airport  
24 has installed airport beacons to identify high



1 areas and dangerous areas around the airport. We  
2 took a look at the beacons that are out there,  
3 and beacon 1 is actually going towards where our  
4 proposed line is. Actually, if you draw a line  
5 between beacon 2 and beacon 1 and actually extend  
6 past it, it's pretty much right where structure 9  
7 is.

8 If you take a look at the next page, it  
9 shows the elevations of the beacons. Beacon 1  
10 actually on the ground is 2,260, which is about  
11 the same height as structure 9. So the ground  
12 right there is where our towers -- the top of the  
13 tower is.

14 Obviously the ground penetrates the 2,238  
15 horizontal surface. Then when you add the 105  
16 foot tall beacon tower on top of that, you're  
17 well over that. Obviously it's there to identify  
18 hazards for the air traffic coming in, but that  
19 is on the ground, and it's as tall or taller as  
20 the structures that we're proposing to put up.

21 If you go to the next slide, we try to take  
22 a look at elevations in that area. Again, the  
23 top of the beacon is at 2,366. The ground is at  
24 2,261. There are trees to the right, tree tops.

1 Those trees actually on the other side of  
2 structure 9 are at approximately 2,300 feet. The  
3 ground is right at 2,250, I think, or 2,248, and  
4 if you assume a 50-foot tall tree or somewhere in  
5 that general area, you're at 2,300 feet, which  
6 again is about the height of the top of our  
7 tallest structure.

8 So we're actually kind of in a saddle area  
9 we feel. We picked that area because it's a  
10 lower spot that allows us to go from the northern  
11 area where we're tying the circuit into the  
12 existing circuits there and running down in as  
13 low an area or corridor as we can find trying not  
14 to penetrate the surface where we do.

15 I think structure 11 is about where the 34:1  
16 surface passes through, so 9 and 10 are outside  
17 of that. As it is, I think 11 through 15 are  
18 within the 34:1 approach surface.

19 Again, looking at structure 9, we would  
20 expect that the FAA would come back and say you  
21 need to mark and light those. Structure 10 as  
22 well, which is about nine feet shorter. They  
23 would expect the same thing there. Then all the  
24 other structures do fall underneath the surface,

1 so they wouldn't really require any mitigation.

2 Again, the structure heights, that's the  
3 tower height. The conductor that will be hanging  
4 between them will actually be lower than that.  
5 There is a sag when you go from structure to  
6 structure, the line sags, so the elevation of  
7 that conductor will actually be below those  
8 heights that we're showing as the structure  
9 heights once they get in between. So, again, we  
10 feel we're far enough below.

11 If we go to the next slide, this is a photo  
12 that we took from the fairground area, or up on  
13 the fairgrounds looking down where this proposed  
14 circuit would be coming through. Our engineers  
15 kind of simulated a couple of structures there  
16 showing where structure 10 would be, and it shows  
17 you that the east ground is higher. It's  
18 actually 2,266 I believe is the ground elevation  
19 to the east up there, and that's actually not far  
20 from where alternative A would come across. It  
21 would be crossing pretty close to the highest  
22 point in that area.

23 Then if you actually go to the left towards  
24 the fairgrounds a little bit further west of

1       there, there is high ground as well. That would  
2       be higher and taller, and actually these  
3       structures are going to be a little bit taller  
4       than the buildings on the fairground. I'm not  
5       sure where they fall exactly, but we're about  
6       comparable to the height of the fairground  
7       buildings already.

8               So, again, we've attempted to try to keep  
9       them below whatever is already there and come  
10      through the lowest spot we can find. So that's  
11      kind of the approach.

12             We'll go to the next slide, Scott. That's a  
13      photo taken from Dutt-Wagner, the property up  
14      behind it. Again, you can see the high ground on  
15      either side of the property on the east and on  
16      the west, and you can see the fairgrounds.

17             Our structures, I believe the structures are  
18      coming right through that saddle area where the  
19      laser pointer is. Again, the structure height is  
20      going to be comparable. Structure 9, which is  
21      further back up the hill, might be around the  
22      fairground building height maybe at that point,  
23      but as they come down, they would be below the  
24      fairgrounds as they come down to the approach

1 area of the airport.

2 Then on the last page, again, we will not  
3 proceed until we get a ruling obviously from the  
4 FAA. We can't build anything. The State  
5 Corporation Commission, if they make a ruling  
6 prior to receiving an FAA decision, they're going  
7 to say it's contingent on the FAA. So we have no  
8 intention of going forward. The FAA can come  
9 back and say, you know, we find these issues.

10 Also, our discussions have indicated that we  
11 don't see any impact to minimums. There  
12 shouldn't be any impact to minimums for the  
13 airport. We feel that actually if we were to put  
14 the structures up where we're proposing, like 9  
15 and 10, we're actually adding possibly a third  
16 beacon for the airport, which is identifying the  
17 ground that's over there that I don't think is  
18 currently identified. So pilots would be aware  
19 of the ground in that area as being a danger  
20 area, and it's right in line with the current two  
21 beacons you have as well.

22 There was another finding that we found  
23 regarding all the different approach procedures  
24 into the airport. I can let Clyde explain a

1 little bit better. He's the FAA expert. But it  
2 looks like runway 24B approach there might be an  
3 issue with the design of it because there is  
4 ground over here that already penetrates that  
5 surface; therefore, it makes that procedure  
6 inaccurate and probably should be taken out of  
7 service. I know we've talked with Mr. Hines  
8 about that.

9 That's already an existing condition, so our  
10 putting the structures over there wouldn't  
11 require the VNAV to be rewritten. It needs to be  
12 rewritten anyway. So whether we build or don't  
13 build, that's a condition or a concern that the  
14 airport needs to be aware of and is aware of.

15 We expect that when there is a revision,  
16 it's a procedure that will take probably our  
17 structures out of the equation and off of any  
18 kind of violations at that time.

19 That's kind of where we're at. We just  
20 wanted to let you guys know the process and to  
21 understand that, you know, it takes a long time.  
22 This has been a two-year process. Even from when  
23 we had our open house last September, it's a year  
24 later and we're still here talking about going

1 before the SCC, and we just filed the FAA routes.  
2 There have been a lot of twists and turns, but we  
3 tried to be as open as we can with it.

4 Again, we would like to find out the  
5 specific concerns that you have. I understand  
6 the three points that you made prior to my  
7 getting up here, but what would we need to do in  
8 order for you guys to support the project?

9 MR. WHITE: Take it as far east as you can  
10 go.

11 MR. BURNS: Well, again, we looked at that,  
12 but, again, you have such an historical area that  
13 we'd have to go completely north and up and  
14 around Abingdon. You know, we took some cursory  
15 looks at that, but just the distance added to the  
16 design of the line.

17 Again, there are all kinds of historical and  
18 potential environmental concerns there, so that  
19 was something we looked at initially, but we kind  
20 of ruled it.

21 We're building about a four-mile line, and  
22 anything that requires us to go all the way  
23 around doubles or triples the cost, so that's not  
24 something PJM would approve. They have to



1 approve our projects and the budgets associated  
2 with them.

3 MR. HINES: As far as route A is concerned,  
4 I think initially when you first talked about it  
5 you said there were more penetrations going that  
6 route than the other route.

7 How much engineering was given to looking at  
8 those towers to be sure you couldn't use the  
9 double towers or maybe route it somewhere else,  
10 as John said, east of Abingdon? I know you put a  
11 lot of engineering into the B route, or the C  
12 route, but how much was put into the A route and  
13 changing it?

14 THE BURNS: The problem with A is that the  
15 ground penetrates it, so it ends right there. I  
16 mean, we can't do anything about lowering the  
17 ground. It doesn't matter what the height of the  
18 structure would be going on the ground. If the  
19 ground already penetrates it, then the ground is  
20 already violating it, and adding a structure to  
21 it would make it even worse is our thought.

22 That's why we were able to find a ground  
23 where out of the 21 structures that we're putting  
24 up, there are two positions or locations that are

1 a violation. If we lower it down, we get it down  
2 to where it's maybe a 20-foot violation.  
3 Everything else is under the threshold.

4 Unfortunately A as we go through -- it does  
5 go up and then come back down. I mean, if you go  
6 further outside of town, you might be able to  
7 find an area where that would be the condition,  
8 but right where A is --

9 Route C is really one of the few open spots  
10 left in Abingdon. If you go to A, you're going  
11 to basically cross that 2,266 threshold in  
12 elevation before we even start putting a tower  
13 up. That was why we just eliminated that because  
14 we can't even come up with a solution for that.

15 MR. WHITE: How many feet would you have to  
16 go underground if you went A?

17 MR. BURNS: I'm not sure on the design of  
18 undergrounding.

19 MR. WEYANT: I don't know off the top of my  
20 head for A.

21 MR. BURNS: Yeah, that we didn't address.  
22 Typically, undergrounding is the last resort. We  
23 try not to go underground. It works in  
24 Washington DC and some of your major metropolitan

1 areas. We can justify it to the PJM group up  
2 there because the cost of land is so high and  
3 everything else real estate, but out in open  
4 country kind of like this it would be a tough  
5 sell to PJM for us to say we want to underground  
6 half of the line or 8/10th of a mile.

7 MR. WHITE: How about just that area where  
8 you say the ground about 2,266 penetrates the  
9 surface? What if you go underground just for a  
10 distance there?

11 MR. BURNS: We would have to see.

12 MR. WHITE: Maybe you should do that.

13 MR. BURNS: Okay. Again, we're talking \$20  
14 million versus \$10 million cost for the line.

15 MR. WHITE: Well, you said you didn't know  
16 yet, so I think you really should have those  
17 figures and look at that because, you know,  
18 you're talking about historical, and we're  
19 talking about safety here.

20 MR. BURNS: Well, we're in a saddle. I  
21 don't understand where the safety comes in. The  
22 fairgrounds are above it, so you have to go over  
23 the fairgrounds to come into the airport. We're  
24 below that.

1 MR. WHITE: I'm not going to debate you  
2 about safety in this forum, okay?

3 MS. PHILLIPS: I have a question. You  
4 mentioned both the State Corporation Commission  
5 and PJM. Which one of those organizations makes  
6 the decision about the pricing?

7 MR. BURNS: That's a good question.

8 MR. KENNEDY: The SCC approves the project.

9 MR. BURNS: PJM recommends, I guess, and the  
10 SCC approves. I guess if the SCC came back, then  
11 PJM would review that and consider that in their  
12 decision.

13 MR. HINES: I have one question. I have a  
14 copy of the Bristol Herald Courier, which I'm  
15 sure you're familiar with, from Monday, August  
16 the 29th. I just have a question.

17 This is a statement made by -- excuse me, I  
18 don't know the last name -- John Shepelwich, a  
19 corporate communication spokesman for AP. The  
20 statement -- this is from the paper. I just want  
21 a yes or no if this is true.

22 It says, "Shepelwich added that AEP has  
23 communicated with representatives of both FAA and  
24 Virginia Highlands Airport, and the current plan,

1           although the most convenient, could be altered if  
2           need be." Is that a true statement?

3           MR. BURNS: I would say yes.

4           MR. HINES: Okay. Thank you.

5           MR. LOWE: I have one question, and it's  
6           hypothetical, so I apologize for that. If there  
7           were to be an aviation accident, how does that  
8           affect the grid? What would be the timeline for  
9           repairing such a transmission line of that  
10          voltage?

11          MR. BURNS: It could be -- I guess it  
12          depends on the extent of the accident, what's  
13          damaged.

14          MR. LOWE: Sure.

15          MR. BURNS: If the conductor is broken, that  
16          would be a shorter fix. If towers are taken out,  
17          that would be a longer fix. I know a couple  
18          years ago a tornado came through the Glade Spring  
19          area. That was a 500kV system, and I think it  
20          was 20 structures. Scott, do you remember?

21          MR. KENNEDY: Yeah. That's a transmission  
22          line. This would be a local outage.

23          MR. BURNS: We were fortunate that we were  
24          actually able to find towers that were available

1 versus having to order them, because when you  
2 have to order them, you've added another probably  
3 six months lead time.

4 We actually had been working with another  
5 power company that was just finishing a project  
6 and they had extra towers, so we were actually  
7 able to buy the towers from them and ship them  
8 down here and put them up.

9 I think they had the line back up in about  
10 four or five months, but that was a transmission  
11 line as Scott has indicated, which is larger.  
12 Construction is a lot more complicated. An  
13 outage here, it would be a couple of months I  
14 would think.

15 MR. LOWE: Thank you.

16 MR. ELLIOTT: Do you have a plat of the  
17 routes that feature the terrain changes, a  
18 topographical map?

19 MR. BURNS: For each structure or for the  
20 route?

21 MR. ELLIOTT: For the route.

22 MR. BURNS: I don't think we have anything  
23 that's available.

24 MR. WEYANT: I didn't hear the question.

1 MR. BURNS: Do we have a plat showing the  
2 elevation changes of the route?

3 MR. WEYANT: A topo map?

4 MR. ELLIOTT: Yes.

5 MR. WEYANT: Yeah, I mean, we do have topo  
6 maps. Is that something you would like to pull  
7 up?

8 MR. ELLIOTT: Well, it would be helpful if  
9 we could see a topographical map with the lines  
10 shown on it as have been proposed.

11 MR. WEYANT: Would a topo map or would like  
12 Google Earth work better where we can move around  
13 and actually see the terrain?

14 Are you just interested in seeing the actual  
15 roll of the terrain? Is that what you're looking  
16 for?

17 MR. ELLIOTT: Yes, the curvature of the  
18 terrain, but particularly in terms of its  
19 elevation.

20 MR. WEYANT: Elevation. Yeah, we could pull  
21 that up. Is that something you want me to pull  
22 up now, or is it something you want us to send  
23 you guys?

24 MR. ELLIOTT: If you could send something to

1 the airport.

2 MR. WEYANT: Yeah, absolutely.

3 MR. ELLIOTT: Thank you.

4 MR. HINES: Can you forward us a copy of the  
5 PowerPoint by e-mail?

6 MR. BURNS: Sure.

7 MR. HINES: Thank you.

8 MR. WHITE: With the projection of the  
9 surfaces in relationship to the proposed power  
10 lines? In other words, if you're looking at the  
11 ground, a horizontal view, and you see a line  
12 approach the surface in relationship to where  
13 this power line would actually be.

14 MR. HINES: Do you understand his question?  
15 I think you've got something like that. This is  
16 the runway elevation. You've done a graph out  
17 here of elevation. Can you superimpose the power  
18 lines? That's what you want to look at, right?

19 MR. BURNS: Clyde has a -- he can pull that  
20 up on his computer if you want to see the  
21 different surfaces coming into the airport.

22 MR. PITTMAN: If you'd like to see them with  
23 respect to the power line, we can do that right  
24 now.



1 MR. ELLIOTT: That would be helpful to find  
2 out if that's exactly what we're looking for.

3 MR. PITTMAN: Okay. That's not a problem.

4 MR. BURNS: Okay. Let's do that.

5 MR. ELLIOTT: I think -- if it is, I think  
6 we would be looking for a hard copy.

7 MR. PITTMAN: Well, now, the files can be  
8 integrated with Google Earth. So I'll be able to  
9 show you, and you can load them yourself, and you  
10 can print pictures from them if you wanted to.  
11 Are you familiar with how to do that?

12 MR. ELLIOTT: No, I probably can't, but I'm  
13 sure there are plenty of people here who can.

14 MR. PITTMAN: I'd be happy to show you.

15 MR. BERRY: While he's doing that, I have a  
16 question. You said that you-all would need the  
17 State Corporation Commission to mandate going  
18 underground, and if so -- I wrote it down as you  
19 said it, so if I didn't write it right, correct  
20 me -- you'd have to look at other alternatives.  
21 What are those alternatives? Do you have an  
22 idea?

23 MR. BURNS: It would be moving the line  
24 somewhere else, or, you know, maybe we could

1 grade the area. There are some things we might  
2 be able to do from a design standpoint.

3 Unfortunately, we're talking trying to get  
4 30 feet lower than we currently are, 28 feet,  
5 whatever the number is. That would be a lot of  
6 grading to do. We'd have to look at buying  
7 property and knocking 20 feet off of it to do  
8 that. Those are some options that we would  
9 possibly look at.

10 I know we're also looking at trying to  
11 shorten the spans. When you shorten the spans,  
12 then your sag becomes higher because you're not  
13 swinging so far, and that might then require you  
14 to lower the structure a little bit by doing  
15 that.

16 There is a trade off where you get to a  
17 point where it may not make sense to do that.  
18 You don't gain a lot more at a certain point.  
19 Those are some things that we're trying to review  
20 still and see what we can do.

21 MR. PITTMAN: All right. I have a  
22 presentation to give, but I can see the interest  
23 right now is with the imaginary surfaces that  
24 everybody is talking about.

1           If you'll bear with me a second, I'll go  
2 ahead and load those. I'll flip them on one at a  
3 time, and you can tell me what you want to linger  
4 with. They're in 3D so you'll be able to see  
5 those. Just give me a minute here.

6           We'll talk our way through this. This line  
7 here, as you can see, is the power line that is  
8 known as route C. I don't have the other ones  
9 here to show you. I just have route C, the one  
10 we're concerned with.

11           I do have other things on here, and what I'm  
12 going to turn on now is the -- I have two points  
13 that are showing these towers, these beacons that  
14 you have that go above the horizontal surface.  
15 We have one on this hill, and I think there is  
16 another one that's a little further away.

17           Okay. These are the two structures that we  
18 talked about that are in the area that go above  
19 the horizontal surface. This is your runway  
20 here. This is the runway we're talking about.

21           Now I'm going to turn on the horizontal  
22 surface that we're talking about. So this  
23 surface is in cyan color, and as you can see, it  
24 is above in all areas but this one area over here

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1 where it's coming across and penetrates the  
2 horizontal surface.

3 You also see these other areas that are  
4 coming through the surface, and I have those in  
5 another format where I can make those bigger. As  
6 I pull into these areas, you get a more realistic  
7 look at what terrain problems that you have that  
8 already penetrate the horizontal surface.

9 So this area that we're dealing with here,  
10 you have this area that penetrates it and this  
11 area. The line that was referred to earlier went  
12 from -- I believe it's this point here to this  
13 other structure that was over here, to the power  
14 lines here, and you have this other item that  
15 penetrates. So that was what we're referring to  
16 as the horizontal surface.

17 Now, for those of you that don't know what  
18 these surfaces are, I'm basically going to  
19 describe it to you. You take the highest point  
20 on the airport. That's called the airport  
21 reference point. You add 150 feet to that point,  
22 and then you draw starting at 200 feet off the  
23 end of your runway, you sweep an arc of  
24 10,000 feet at both ends of the runway, and that

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1 connects at 150 feet above the airport. That  
2 becomes your horizontal surface. It's 150 feet  
3 high. Anything that penetrates that has the same  
4 basic effect.

5 Just for note here, these beacons, to the  
6 best of my knowledge, are not in the FAA's  
7 obstacle database. They do not know about these  
8 obstacles here, these towers.

9 So I'm going to go ahead and turn the  
10 surface off, and I'm going to turn on your  
11 approach surface.

12 MS. PHILLIPS: Mr. Pittman, I have a  
13 question. If you go back again to where it  
14 showed the penetrations above the overlay, what's  
15 the span there of the distance between the cyan  
16 lines that you mentioned? What's the length  
17 there that comes above the overlay?

18 MR. PITTMAN: Roughly, including spans,  
19 1,141 feet.

20 MS. PHILLIPS: Thank you.

21 MR. PITTMAN: Uh-huh. We also could measure  
22 the distance, if we wanted to, between the areas  
23 that are covered. If we take the furthest point  
24 here and draw that to the next highest point,

1 we're at almost 2,000 feet, 1,912 feet.

2 MS. PHILLIPS: What's the elevation of that  
3 area, the shaded area closest to the towers?

4 MR. PITTMAN: I can get you an approximation  
5 of that. It varies as we're going over it. I'm  
6 at 2,247, 48, 49, 52, 56, 58, 59, 2,260 -- I  
7 sound like an auctioneer -- 2,262, 2,263 in that  
8 area. Of course, that's Google Earth's  
9 interpretation of the elevation. You'd have to  
10 go back to USGS or a survey to get the exact  
11 numbers, but that's roughly it.

12 MS. PHILLIPS: Thank you.

13 MR. PITTMAN: You're welcome. This is your  
14 departure surface. This is a 40:1 surface that  
15 extends out from the airport. Now, I do want to  
16 bring up the Baptist church that is right here.  
17 The Baptist church, maybe just a little bit, but  
18 it does penetrate by several different feet, the  
19 Baptist church does that.

20 In accordance with the FAA's comments to  
21 your latest ALP, airport layout plan, it's the  
22 34:1 that was penetrated, and this is the reason  
23 that you have a climb gradient of 225 feet per  
24 nautical mile versus the standard of 200. So you

1 already have a penetration right there in your  
2 approach, and it's basically on centerline.

3 This is the departure surface. This is the  
4 clear surface that aircraft starting at this end  
5 of the runway, they take off in this direction,  
6 and they climb out. The departure end of the  
7 runway is 24, and then they climb out, and this  
8 is the clear 40:1 surface, and the power lines do  
9 not penetrate that surface. They're clear.

10 I do want to do the approach surface, and I  
11 thought this was it. Oh, yeah, here we go. So  
12 now we have the approach surface. Now, I do want  
13 you to notice that the approach surface normally  
14 goes out 10,000 feet, but it truncates when it  
15 reaches the elevation of the horizontal surface  
16 which then dominates.

17 In my slide I do extend it out 10,000 feet,  
18 but as you can see here, it just covers the edge  
19 of the power lines on a 34:1 surface, and this is  
20 the distance the power line would be to the  
21 surface that's out there.

22 You can see that the aircraft are not flying  
23 at a 34:1. Aircraft are flying at a 30:1.  
24 That's a three degree glide path as they come in,

1 and they will be above this surface even more as  
2 they make the approach on the three degree glide  
3 path coming in.

4 Relatively speaking, this is the height of  
5 the obstacle surface, the safety surface that  
6 you're talking about that's covered in Title 14  
7 CFR, part 77. That's what the FAA uses to go by,  
8 which is the standard of safety within the United  
9 States, and the world for that matter. It just  
10 has a different name.

11 So that is the approach surface, and the  
12 surfaces off to the side, they're up a little  
13 higher. These are the transitional surfaces, and  
14 these surfaces, as you can see, they edge upward  
15 from the approach, but all of these power lines  
16 are significantly under the 34:1 approach  
17 surface. Your consultant has done the same work  
18 as I've done, and he can tell you the same thing.

19 Another thing is, if there was any worries  
20 about funding if there is a penetration to an  
21 obstacle surface, the FAA is very concerned about  
22 penetrations to when the airplanes fly in.  
23 They're not so much concerned about penetrations  
24 to the horizontal surface as they are to the

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1 approach. The approach is much, much more  
2 serious.

3 When the aircraft are making an approach to  
4 circle, if you will, they fly at a pattern  
5 altitude which is roughly 5,000 feet above the  
6 airport, so they are hundreds of feet above the  
7 horizontal surface as they are circling to make a  
8 landing.

9 MR. WHITE: (Inaudible.)

10 MR. PITTMAN: That's true. It is lower, but  
11 we clear those too, the circling minimums. As a  
12 matter of fact, according to the FAA, they're  
13 actually in January going to be lowering the  
14 circling minimums to the airport, and it still  
15 clears. I cover that in a slide.

16 But every one of the surfaces that I  
17 mentioned here, both the IFR and the VFR, because  
18 34:1 is a VFR surface, the most critical, the  
19 approach, the airplanes are significantly above  
20 these surfaces.

21 If you want to get really fancy, we can open  
22 up a three dimensional LPB approach. Now, I'm  
23 going to turn off the AOS surface, and then I'm  
24 going to show you, this is your procession

1 approach to your airport, your LPB, in 3D. So  
2 the aircraft are starting way out here at --  
3 let's just call it the initial or the  
4 intermediate fix, and forward that roughly  
5 4,000 feet when they reach the final approach  
6 fix, which is here, which I guess is somewhere  
7 around five nautical miles out.

8 At that point, the aircraft then begin to  
9 descend at a three degree glide angle as they  
10 make their approach on the airport. As you can  
11 see here -- now, this surface that you see here,  
12 this red surface, is an obstructing surface, not  
13 the flying surface. The flying surface, again,  
14 is a 30.38:1. It's significantly higher. This  
15 is the clear surface.

16 But the LPV mathematical calculations take  
17 into account the curvature of the earth, which  
18 makes it essentially lower as you do the math on  
19 it. So, again, our power lines don't penetrate  
20 that surface. We wouldn't expect it to.

21 This is your 3D surface that you're flying  
22 when you fly the closest tolerance to that runway  
23 to make a landing, and you are significantly  
24 above that surface. We can go in here and see

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1 that we're above that surface. It gets a little  
2 ratty, but we are above that surface.

3 Now, we talked earlier about the VNAV  
4 approach. I'm going to turn this off.

5 MS. PHILLIPS: One question before you take  
6 that off. Is your take off -- are your departure  
7 planes the same as the landing planes?

8 MR. PITTMAN: No, they're stricter. I'll  
9 show that again.

10 MS. LOWE: While you're looking for that, is  
11 the size of the plane an issue like a --

12 MR. LAMB: A factor?

13 MR. HINES: The size of the aircraft, is  
14 that what you're saying?

15 MS. LOWE: Yes, the size and type of  
16 aircraft, is that a factor?

17 MR. PITTMAN: Not in these surfaces, no.  
18 They fly the same surfaces. It's basically  
19 designed for the worst aircraft. That's the way  
20 the FAA thinks.

21 I was going to show you the VNAV. Oh,  
22 departure, you asked the question about  
23 departure.

24 This is the departure surface. As you can

1 see, we have some problem over in this area, and  
2 the church is, of course, pretty much on runway  
3 centerline as the aircraft take off, but it  
4 doesn't penetrate the 40:1 surface either. So  
5 that's a lower surface when you make a departure.  
6 Basically --

7 MR. WHITE: How much clearance is there  
8 between the power lines and the bottom of the  
9 surface?

10 MR. PITTMAN: In this particular case?

11 MR. WHITE: Yes.

12 MR. PITTMAN: It's close. It's close.

13 MS. LOWE: When you say close, give us an  
14 estimation.

15 MR. PITTMAN: A foot. But, now, that's not  
16 the difference between an airplane. Let's just  
17 talk about departures for a second. If you've  
18 got an airplane that's making a departure, the  
19 design standard is at one nautical mile --

20 Let's just assume, to make it easy, it's a  
21 completely flat earth. So at one nautical mile,  
22 which is 6,076 feet, I can have an object 152  
23 feet tall at one mile and I'm clear. The  
24 aircraft at that point would be 48 feet above

1 that object. That is permitted. That is the  
2 design standard.

3 You know, sometimes it gets pretty close.  
4 Have you ever landed in San Francisco? When  
5 you're flying over those homes, it sure seems  
6 close, doesn't it? But nonetheless, that is the  
7 design standard.

8 So the aircraft is taking off at a 200 foot  
9 per nautical mile climb gradient, and then I have  
10 the lower surface, the obstacle clearance surface  
11 of a 40:1, and that's the same surface that the  
12 church already penetrates.

13 MS. PHILLIPS: It seems there is a pretty  
14 significant difference between a single spire  
15 versus a whole line of transmission wires. How  
16 do you explain that?

17 MR. PITTMAN: Well, they don't penetrate.  
18 That's the whole object, and that's the whole  
19 purpose of the obstacle surfaces is to stay below  
20 it. Once you're staying below them, then the FAA  
21 will assume that that is -- that is the  
22 understanding that it is now safe.

23 So those towers that are through here, they  
24 don't penetrate the 34:1, the 40:1, or any of

1 your obstacle surfaces, so the FAA is not going  
2 to require them to be lit.

3 For safety purposes the airport can make  
4 that recommendation that they want to do that,  
5 they would like them to have marker balls on  
6 them, then I'm sure the power company would be  
7 glad to do that. That would enhance the safety,  
8 but they're not unsafe at that altitude, not  
9 according to the design specifications.

10 I mean, everybody has their opinion, and as  
11 a pilot I understand that you would like a  
12 sterile earth to come in and land on. Everybody  
13 would want that, passengers and everybody, but  
14 that's just not the way the world is built. The  
15 world is built with objects that have to be  
16 cleared, and so you have standards that make a  
17 difference. The standards are what determines  
18 whether something is a hazard or a non hazard.

19 If it penetrated the 40:1, the FAA may still  
20 allow it with marking and lighting, but this  
21 doesn't so it's not going to become a problem.

22 MR. WHITE: These are minimum standards.  
23 There is no margin. These are minimum standards.

24 MR. PITTMAN: Well, they are the standard

1 because there's no tolerance on the standard.

2 MR. WHITE: That's right. So it's minimum,  
3 very minimum.

4 MR. PITTMAN: Well, okay. I'm not going to  
5 argue with you. I mean, these are what part 77  
6 is, and these were drawn up, and this has been  
7 the standard in the United States for years.

8 MR. WHITE: It's not standard, it's minimum.

9 MR. PITTMAN: Anyway, the demonstration I  
10 showed here is basically you wanted to see what  
11 the surfaces were and the terrain. If there are  
12 any other questions, I'd be glad to answer those.

13 MR. BAKER: I was looking at this, and how  
14 is this addressing the concern about number 10?  
15 It seems like these are 13, 14 and 15. Why are  
16 we looking at these?

17 MR. PITTMAN: Well, the question was: What  
18 does the departure surface look at, so I was  
19 demonstrating the departure surface.

20 The surfaces for the towers that penetrate,  
21 the 9 and 10, they're over here someplace. I  
22 have to bring up the horizontal surface to see  
23 that, so let me do that. They're right here.

24 MR. BAKER: (Inaudible.)

1 (The court reporter asked for everyone  
2 to speak up.)

3 MR. BAKER: I asked since the towers that  
4 were penetrating the zone were 9 and 10, why we  
5 were looking at towers 13 through 15 since those  
6 weren't in question anyway.

7 MR. PITTMAN: I was answering the lady's  
8 questions on the departure surface.

9 MR. BAKER: And in this particular map, the  
10 green lines, does that indicate where it's  
11 penetrating the plane?

12 MR. PITTMAN: They just indicate the lines.  
13 The penetration would be penetrating through the  
14 surface.

15 MR. BAKER: Will this show how much it's  
16 penetrating?

17 MR. PITTMAN: No. You'd have to figure it  
18 out with pencils.

19 MR. BAKER: Okay. Thank you.

20 MR. LAMB: The question came up concerning  
21 the VNAV and the impact that would have.

22 MR. PITTMAN: Yes. The VNAV is a very  
23 peculiar navigational aid. It is based on the  
24 coldest, the average coldest temperature over



1 five years. In the case of this airport, they've  
2 assigned it a minus 19 degrees celsius as being  
3 the average coldest temperature that you have a  
4 design for. So if the temperature gets to minus  
5 19 degrees celsius, below that temperature you  
6 can't use the procedure.

7 The temperature becomes a factor in the  
8 mathematical equations that lead to the design of  
9 the procedure. So does the flight path, and so  
10 does the threshold crossing height.

11 The threshold crossing height is the design  
12 level that the aircraft should be at when it  
13 crosses the runway threshold. In this particular  
14 case, the aircraft should be at 58 feet above the  
15 runway when they're making a land on any of the  
16 R & F systems that I've talked about here.

17 So you take the -- you calculate the start  
18 of the obstruction clearance surface. It's based  
19 upon the threshold crossing height and the glide  
20 angle. Then it comes out to be around 3,000-some  
21 feet, depending upon the numbers going one way or  
22 the other, from the runway.

23 So if I've got the runway here, the end of  
24 the runway here, that surface may not start until

1 it's over here. Then there are two ways to take  
2 that surface.

3 Now, the FAA originally will take that  
4 surface and will add 89 feet to the runway  
5 elevation, and anything within that area  
6 basically until the obstruction surface reaches  
7 89 feet above the runway is factored into  
8 89 feet.

9 There are plenty of penetrations out there  
10 that cause that not to occur, but the FAA when  
11 they originally do a determination, they use  
12 89 feet to derive their answer, and that is where  
13 the penetration to the ground elevation comes in.

14 But in reality, in this particular case  
15 you've got a VNAV with 2,512 feet. Now, the way  
16 the math goes to figure that out, it's based on  
17 the height of the objects that are in that area.  
18 I take 2,512, and I subtract for category D  
19 aircraft, which is the fastest landing speed  
20 aircraft that this airport could support. You  
21 subtract 161 feet from that, and that gives us  
22 our answer.

23 So my original thoughts on what the FAA was  
24 doing, I do not believe there is going to be a

1 penetration of these structures, nor does the  
2 VNAV have to change because when they figured it  
3 out, they figured it out under the best possible  
4 scenario for the lowest structure height. That's  
5 not what they can apply here because the decision  
6 altitude would normally be 250 feet above the  
7 runway, and this is considerably more. This is  
8 almost 500 feet above the runway. So there is  
9 really no problem with the VNAV. Do you have any  
10 follow-up questions?

11 MR. LAMB: You might also -- do have the  
12 PAPI surface in your profile?

13 MR. PITTMAN: The patent surface?

14 MR. LAMB: The PAPI surface, the visual.

15 MR. PITTMAN: Yeah, the PAPI surface was  
16 covered in the NAS. There is no problem with the  
17 PAPI.

18 Again, the FAA when they do an original  
19 analysis on a PAPI, they take the runway end  
20 coordinates, they subtract 300 feet from that  
21 down the runway and start their OCS from that  
22 point. That's not how it's done correctly. It  
23 starts at the PAPI 300 feet forward and up. So  
24 the PAPI has been taken care of. Are there any

1 other questions?

2 MR. ELLIOTT: What are the elevations of the  
3 9 and 10 towers?

4 MR. WEYANT: You want the top of tower  
5 elevation?

6 MR. ELLIOTT: No, I want the height of the  
7 tower itself.

8 MR. WEYANT: 9B is 66 feet, 10B is 76 feet,  
9 9A is 69 feet, and 10A is 72 feet.

10 MR. ELLIOTT: In terms of the elevation, not  
11 the height of the tower, but in terms of the  
12 elevation, what are your requirements in terms of  
13 clearance from the surface of the earth?

14 MR. PITTMAN: That's a power question.

15 MR. ELLIOTT: A what?

16 MR. PITTMAN: A power question.

17 MR. WEYANT: Are you asking actual clearance  
18 between the energized conductors and the ground?

19 MR. ELLIOTT: Yes, I guess that's what I'm  
20 asking.

21 MR. WEYANT: It's 30 feet for 138kV, which  
22 is what this line will operate at under normal  
23 operating conditions. There are multiple  
24 different criteria that you look at from the

1 National Electric Safety Code depending on  
2 different applications, but under normal  
3 operating procedures it's 30 feet.

4 MR. ELLIOTT: That's tower height or that's  
5 the lowest --

6 MR. WEYANT: That's the lowest point for the  
7 sag of wire that you can have.

8 MR. ELLIOTT: Thank you.

9 MR. WHITE: Mr. Pittman, back to the  
10 departure surface, what would be the MSL right as  
11 the departure surface crosses that power line?

12 MR. PITTMAN: I can tell you that if you'll  
13 just give me a minute.

14 MR. WHITE: Sure.

15 MR. PITTMAN: Okay. This is a software  
16 program that calculates instrument departures, so  
17 what we have here -- do you want the surface  
18 height or the aircraft height?

19 MR. WHITE: No, surface height. Well, the  
20 climb ratio of the airplane.

21 MR. PITTMAN: Well, we're going to use 225  
22 because that's what you have.

23 MR. WHITE: Yeah. I just want to see what  
24 the height of the surface is.

1 MR. PITTMAN: So we're climbing 2,500, and  
2 we are 225 climb gradient. So it looks as though  
3 the maximum height there would be 2,227. Now,  
4 remember, I just clicked on a point, so that  
5 would be roughly what it would be. The runway is  
6 2,087.

7 MR. HINES: 2087.6.

8 MR. PITTMAN: Okay, fine. Do you want to  
9 know what the aircraft height would be above the  
10 structure?

11 MR. HINES: Above the structure, yes.

12 MR. WHITE: If you've got it, might as well.

13 MR. PITTMAN: Well, we have to do it a  
14 little differently. It will be a little higher  
15 than this, but we'll do it at worst case. It  
16 will be higher than that number. I can give it  
17 to you just as a -- no, that won't work.

18 2,251, that's about right. It actually  
19 would end up being, at the 225 climb gradient, it  
20 would be a few feet higher than that. I'd have  
21 to calculate that out. If you want it exact, I  
22 can do that too. I'd have to do a little  
23 division.

24 MR. WHITE: We're talking less than

1 200 feet, right?

2 MR. ANDERSON: Depends on the engine.

3 MR. PITTMAN: No, it doesn't matter the  
4 engine.

5 MR. ANDERSON: One engine climbing rate.

6 MR. HINES: So roughly you're talking about  
7 200 feet you'd take a bunch of power lines out?

8 MR. PITTMAN: No. I said that you're 2,227  
9 feet. I'm going to give you an exact number  
10 here, but I have to use a calculator because I  
11 can't do this in my head.

12 So your climb out is now 27. So if I change  
13 this to 30 -- well, it's 27.00, so we'll just  
14 make that 27.

15 Now, let me point out here that the question  
16 is single engine aircraft, worst performing  
17 aircraft.

18 MR. ANDERSON: I'm talking about on one  
19 engine.

20 MR. PITTMAN: So you want to do an engine  
21 out?

22 MR. ANDERSON: Yes. We talked about that  
23 before, single engine.

24 MR. PITTMAN: Okay. You're at 2,272,

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1           thereabouts.

2           MR. WHITE: 2,272 and the highest part of  
3           the power line was how high?

4           MR. PITTMAN: The power line in that area --  
5           there was a station 11. I don't remember the  
6           numbers that are there.

7           THE BURNS: Structure 11 is at 2,235.

8           MR. PITTMAN: Okay.

9           MR. WHITE: Like I said, it's minimum.

10          MR. PITTMAN: Is there any point in me doing  
11          my presentation, or is this good enough? I can  
12          run through it if you wanted to see it. I mean,  
13          it does have some merit. How about a show of  
14          hands. Apparently not.

15          MR. LAMB: Another question I'd like you to  
16          address, if you could, is some local pilots have  
17          indicated having that type of power line only  
18          three-quarters of a mile off the end of the  
19          runway. Could you talk about that a little bit?

20          MR. PITTMAN: What do you want me to say?  
21          It is what it is. If it's three-quarters of a  
22          mile off the end of the runway, they need to  
23          climb just like they normally would, and they'll  
24          clear it.



1           There is nothing special about this than any  
2           other object that would be out there. They just  
3           -- nothing is going to change in their  
4           departures. Whenever they do their rollout, it's  
5           the same, and they'll still clear it.

6           This assumes -- this departure that I'm  
7           doing is not from when you have wheels off the  
8           ground. This is assuming the wheels are still on  
9           the ground by the time they reach the end of the  
10          pavement. You know, by that time you're in  
11          trouble if you've waited that long to lift off.

12          So that's the worst case. Normally the  
13          aircraft would lift off, I don't know, several  
14          hundred feet before the end of the runway and  
15          would be significantly higher than the numbers  
16          I'm using here.

17          I'm giving you absolutely worst possible  
18          case, and that's how it's done. It's assuming  
19          that plane does not get off the ground until it  
20          reaches the flat end of that runway, and that's  
21          the assumption.

22          That's the surface that you're projecting  
23          for, not for an airplane that takes off midway  
24          down the runway and by the time it reaches the

1 end of the runway they're already a hundred feet  
2 above the runway, which is probably normally what  
3 happens.

4 I mean, that's where we're going with this,  
5 and that's the way planes fly. They don't wait  
6 until they run out of runway. If they did,  
7 that's what the RPZ is for. The RPZ is for  
8 protection of people and property on the ground,  
9 and that's already accounted for, and that occurs  
10 -- it goes 2,700 feet out from the end of the  
11 runway. That's right here, 2,700 feet.

12 MR. LAMB: If it's a precision approach, it  
13 would be 2,700 feet?

14 MR. PITTMAN: Right. That's the biggest  
15 one.

16 MR. LOWE: This may be a question for AEP,  
17 but do y'all have any other 138 kilovolt within  
18 three-quarters of a mile of the end of a runway  
19 in the state of Virginia?

20 MR. BURNS: I don't know. I could look into  
21 that, but I'm not aware of what that answer would  
22 be.

23 MR. WEYANT: Yeah, we just built one in  
24 Lynchburg.

1 MR. LOWE: How close is it?

2 MR. WEYANT: It's actually at the end of the  
3 runway, but Lynchburg's runway is like this, and  
4 the line is down here, so it's lower than the  
5 runway.

6 MR. WHITE: So they're going to die anyway,  
7 see. You answered a lot of good questions,  
8 especially with your graph and stuff. Good job.  
9 You're on it.

10 MR. PITTMAN: Thank you. I wrote the  
11 software.

12 MR. WHITE: That's your story.

13 MR. PITTMAN: Actually, the software -- just  
14 to let you know -- it is the national standard  
15 within the civil government, or the civil  
16 population.

17 It's used by all the telephone companies in  
18 the United States. It's used by the State of  
19 Ohio, Pennsylvania, Washington, Oregon and  
20 Florida. They all use the software to do their  
21 airspace analysis. Thank you all very much.

22 MR. WHITE: Thank you. You did a good job.

23 MR. BURNS: Any other questions?

24 MR. HINES: If you're all done, we'll take a

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1 short break before the board goes back to their  
2 regular business.

3 MR. BURNS: We appreciate you letting us  
4 come and make a presentation.

5 MR. WHITE: We appreciate your time. Good  
6 presentation.

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1 COMMONWEALTH OF VIRGINIA AT LARGE: To wit:  
2

3 I, Cynthia L. Bragg, Notary Public in and for  
4 the Commonwealth of Virginia at Large, and whose  
5 commission expires April 30, 2018, do certify that  
6 the aforementioned proceedings were held before me  
7 and that the foregoing is a true, correct and full  
8 transcript of the proceedings to the best of my  
9 ability.

10 Given under my hand and notarial seal at  
11 Bristol, Virginia this 8th day of November, 2016.

12  
13 

14 Cynthia L. Bragg - Notary Public  
15 Commonwealth of Virginia  
16 Registration No.: 174612  
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